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— F. A. Davis of Philadelphia has in press a new work on the "Practical Applications of Electricity in Medicine and Surgery," by Dr. G. A. Liebig, jun., of Johns Hopkins University, and Professor George H. Rohé of the College of Physicians and Surgeons, of Baltimore. The part on physical electricity, written by Dr. Liebig, one of the recognized authorities on the science in the United States, will treat fully such topics of interest as storage-batteries, dynamos, the electric light, and the principles and practice of electrical measurement in their relations to medical practice. Professor Rohé, who writes on electro-therapeutics, discusses at length the recent developments of electricity in the treatment of stricture, enlarged prostate, uterine fibroids, pelvic cellulitis, and other diseases of the male and female genito-urinary organs. The applications of electricity in dermatology, as well as in the diseases of the nervous system, are also fully considered. The work will be fully illustrated by engravings and original diagrams.

— The last regular article in the railway series will be contributed to *Scribner's Magazine* for September by H. G. Prout, editor of the *Railroad Gazette*, who will write of "Safety in Railroad Travel," explaining in a popular way many of those ingenious devices which have come into general use and have made railway

travel the safest form of locomotion except walking. This article, which will be very fully illustrated, will explain, among other things, the Westinghouse air-brake, and complicated system of semaphore signals and interlocking switches, and crossing-gates, detector-bars, and automatic couplers. W. Hamilton Gibson will write on "Night Witchery," describing what may be seen of nature on a very dark night with other organs of sense than the eye. The article will be illustrated with a number of Mr. Gibson's most characteristic drawings. A. R. Macdonough will contribute the fourth paper in the fishing series, entitled "Nepigon River Fishing," in which he will describe one of the most attractive spots in Canada for all lovers of good sport. Lake Nepigon is two-thirds as large as Lake Ontario, filled with picturesque islands, and with strangely irregular shores. It is some distance from the line of the Canadian Pacific Road. Professor George Trumbull Ladd of Yale College will have in the number a very timely article on the "Place of the Fitting-School in American Education," in which he discusses certain plans for enabling the preparatory schools of the country to accomplish much better work than is now possible, so that they may send out their pupils as well educated at eighteen as they now are at twenty. Such changes he believes necessary in order to effectively raise the standard of American universities.

#### INDUSTRIAL NOTES.

##### Electrical Apparatus for Medical and Surgical Purposes.

THE engravings given herewith illustrate two pieces of electrical apparatus, manufactured by Charles Reitz of Indianapolis, and intended for the use of physicians and surgeons.

The office battery, shown in Fig. 1, is furnished with thirty-six

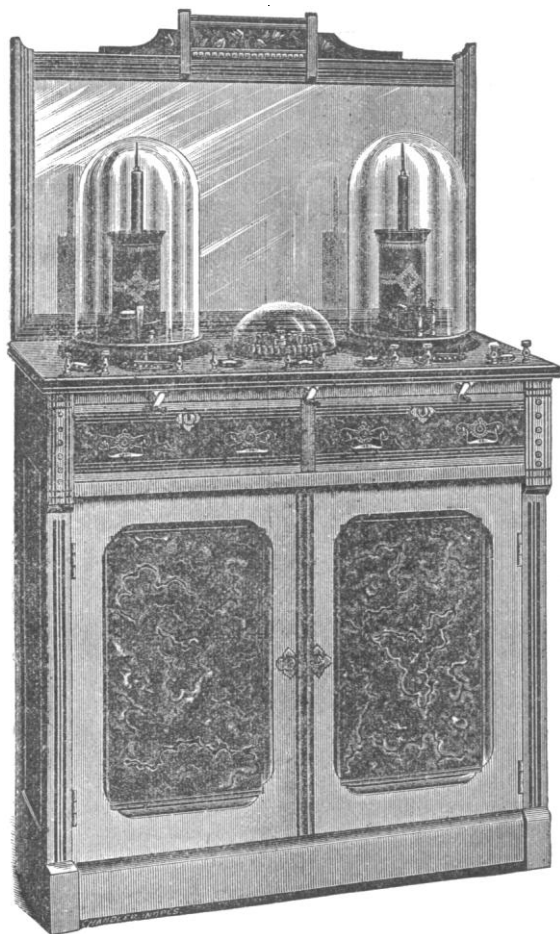


FIG. 1. — REITZ'S ELECTRICAL APPARATUS.

zinc-carbon cells, for galvanic current, and two electro-magnetic machines. The manufacturer claims that the battery may be used daily for a year without refilling. The cells are so arranged in the lower part of the case, that, when removed for refilling, no mistakes in connections can be made when returning them to their places.

The jars are  $3\frac{1}{2}$  inches square by  $5\frac{1}{2}$  high. The porous cups are  $1\frac{1}{4}$  inches in diameter and  $4\frac{1}{2}$  inches high. The cells are connected to a hard-rubber switch-board in such a way that one cell after another may be added to the circuit, giving a current of any intensity, from that of one cell to the full power of the battery.

Each electro-magnetic machine has two large cells of battery of a capacity sufficient to run the machine from three to five hours with one filling, and they are so connected by a switch-lever on top that one or both cells may be used. The machines are kept covered by glass shades, the regulating-tubes in the coils being raised or lowered by turning a small crank in front of the case, the shades thus not requiring removal.

A magneto-electric generator and small incandescent lamp are shown in Fig. 2. The armature is of the Siemens type,  $3\frac{1}{2}$  inches

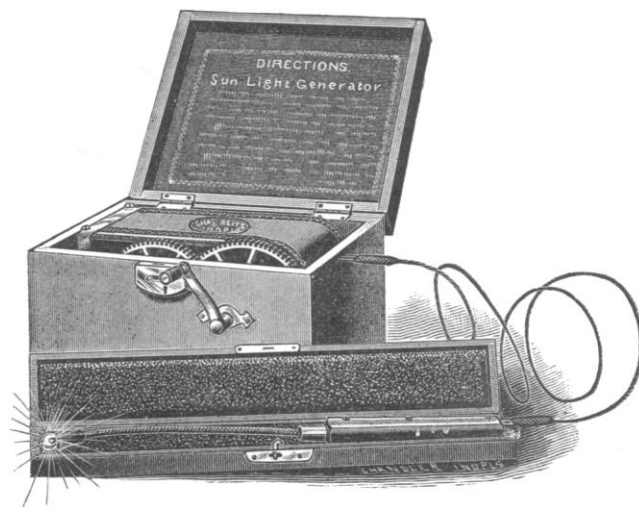


FIG. 2. — REITZ'S ELECTRICAL APPARATUS.

long and  $1\frac{1}{2}$  in diameter, with  $\frac{3}{8}$ -inch bearings running in phosphor-bronze boxes. The lamp is one-half candle-power, and is mounted in a hard-rubber socket on the end of a flexible stem. It is a neat and convenient apparatus for the use of medical men.

##### Electric Motors.

The C. & C. Electric Motor Company of this city have just taken a contract to furnish a notable power-equipment for the works of the Hickox Manufacturing Company, ruling-machine makers of Harrisburg, Penn. The power-plant will consist of four C. & C. electric motors, three being of 20 horse-power, and one of 15 horse-power. The current to operate them will be taken from the Edison central lighting station. This installation is notable, both because of the amount of power used from large motors, and the fact that it is all derived from a central station.